

Response under 37 C.F.R. 1.116

Applicant: Jeffrey Allen Neilsen et al.

Serial No.: 10/603,896

Filed: June 24, 2003

Docket No.: 100201650-1/H301.269.101

Title: **METHOD OF IMPROVING COLOR QUALITY IN AN OBJECT PRODUCED BY SOLID FREEFORM FABRICATION**

REMARKS

The following remarks are made in response to the Office Action mailed March 14, 2006, in which the rejection of claims 1-19 was made final. With this Response, no claims have been amended. Claims 1-47 remain pending in the application, with claims 20-47 having been previously withdrawn from consideration as being drawn to a non-elected invention.

Claim Rejections under 35 U.S.C. § 103

Claims 1-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jang et al. (U.S. Patent No. 6,401,002) in combination with Shields et al. (U.S. Patent No. 5,181,045) for reasons of record. In particular, Jang et al. is cited as teaching a solid freeform fabrication process of making an object by ejecting a first material containing a colorant, but is acknowledged as failing to teach causing a reaction that keeps the colorant near the surface of the object. Shields et al. is alleged to teach causing a reaction that keeps the colorant near a surface of an object. In response to earlier arguments set forth by Applicant, the Examiner states:

“... Shields et al. teaches ‘crashing’ or precipitating a colorant out of a material, which will keep a colorant near a surface of a formed object (note page 8, lines 1-18 of the instant specification). While Shields et al. may also be concerned with a different problem (i.e., preventing or reducing the mixing of two different ink colors at a common border of the two inks), this does not in any way diminish the teaching of Shields et al, and one of ordinary skill in the art would look to Jang et al. and Shields et al. for teachings on how to provide an object having a desired color.”

(Office Action, para. 7)

Shields et al. teaches preventing or reducing mixing of two different ink colors at a common border of the two inks. (See Shields et al., col. 2, line 57 through col. 3, line 1). In particular, Shields et al. teaches that by forcing a dye to become insoluble, migration of the dye will be inhibited and bleed between different colors will be reduced. (See Shields, et al., col. 2, lines 32-36). However, Applicants respectfully submit that forcing dyes to become

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insoluble at a common border to prevent mixing of two different ink colors is *not the same* as **causing a reaction that keeps a colorant near a surface of a three-dimensional object**, as set forth in claim 1. Shields et al. makes no teaching regarding keeping colorant of the inks near a surface of the print medium (e.g., paper). Rather, Shields et al. is indifferent as to the location or migration of the dyes except for along a common border between two different ink colors. Thus, Applicants respectfully submit that even if the teachings of Jang et al. and Shields et al. were combined, at best the result would be that colorants in the material of Jang et al. would be prevented from migrating into colors of adjacent layers of the object. This is not the same as keeping the colorant near a surface of the object, as in the modified process of Jang et al. colorants would still be capable of migrating into the deposited layer and away from the surface of the object. Applicants respectfully submit it is only the instant application that teaches **causing a reaction that keeps the colorant near a surface of the object**. For at least this reason, the combination of Jang et al. and Shields et al. fails to teach or suggest the invention of claim 1, and withdrawal of the rejection of claim 1 under 35 U.S.C. §103(a) is respectfully requested.

Claims 2-19 each depend, either directly or indirectly, from independent claim 1 which is in allowable condition for at least the reasons set forth above. Accordingly, dependent claims 2-19 are also in allowable condition, and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

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CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1-19 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-19 is respectfully requested.

Any inquiry regarding this Amendment and Response should be directed to either W. Jeff D. Limon at Telephone No. (541) 715-5979, Facsimile No. (541) 715-8581 or Matthew B. McNutt at Telephone No. (612) 767-2510, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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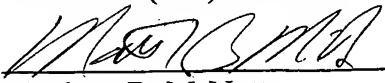
Respectfully submitted,

Jeffrey Allen Neilsen et al.

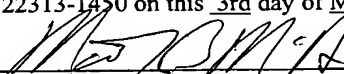
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CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 3rd day of May, 2006.

By 
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